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## (54) PROTON-CONDUCTIVE POLYMERIC SOLID ELECTROLYTE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a proton-conductive polymeric solid electrolyte which has high proton conductivity over a wide temp. range, possesses excellent adhesion to a substrate and an electrode, is not brittle and has excellent strength.

**SOLUTION:** This proton-conductive polymeric solid electrolyte is composed mainly of: a polymer prep'd. by introducing a sulfonic or phosphoric group into a polymer having in its molecule an arom. ring or nitrogen-contg. ring structure and capable of withstanding a temperature of 250°C or above; and at least one polymer selected from the group consisting of a polymer having a proton conductivity of not less than 10<sup>-5</sup>(s/cm) at a relative humidity of 50%, a polymer having a water absorption of not less than 1%, and a polymer having a glass transition temp. of 0°C or below.